



S. S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER RESOURCE CONSULTANTS

INVOICE

Client:
US Environmental Protection Agency

RTP Finance Center
 (AA216-01)
 109 TW Alexander Drive
 Durham, NC 27711
 Mr. Daniel Olsson

Invoice #:	23529
Date:	8/13/2021
Project Name:	EPA R5: Hydrogeologic Synthesis & Modeling Support
Project #:	1725

Comments:

GSA Contract #GS-10F-0462M
 Order No.: 68HE0520F0029

Remit Payment To: S. S. Papadopoulos & Associates, Inc.
 1801 Rockville Pike - Suite 220
 Rockville, MD 20852
 Phone: (301) 718-8900

For Services Rendered Through 7/31/2021

002-01-10 - 0001AB-Union Carbide Corporation Superfund Site
Professional Services

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Associate			
Spiliotopoulos, Alexandros	██	██	\$1,728.52
Sr. Project Hydrogeologist/Sci			
Sorel, Dominique	██	██	\$146.41
Technician/Draftsperson			
Pekoske, Kristen M	██	██	\$38.55
Labor Subtotal	██		\$1,913.49
Item Subtotal			\$1,913.49

003-01-10 - 0001AC-St. Regis Paper Company Superfund Site
Professional Services

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
----------------------	--------------	-------------	---------------

Sr. Project Hydrogeologist/Sci			
Sorel, Dominique			\$1,098.08
Technician/Draftsperson			
Pekoske, Kristen M			\$77.10
Labor Subtotal			\$1,175.18

Outside Consultants

<u>Activity/Vendor</u>	<u>Invoice</u>	<u>Date</u>	<u>Cost</u>	<u>Mult</u>	<u>Amount</u>
Subterranean Research, Inc.	SSP20201-I18	7/31/2021			\$7,401.60
Outside Consultants Subtotal					\$7,401.60
Item Subtotal					\$8,576.78

004-00-10 - 0001AD-Pristine Superfund Site**Professional Services**

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Principal			
Tonkin, Matthew J			\$1,734.75
Sr. Hydrogeologist/Sci.			
Mihm, Kathleen			\$1,211.18
Sr. Project Hydrogeologist/Sci			
Karanovic, Marinko			\$3,806.66
Perozo, Erica L. DiFilippo			\$8,418.58
Sorel, Dominique			\$292.82
Staff Hydrogeologist/Sci.			
Adams, Glen			\$181.20
Technician/Draftsperson			
Pekoske, Kristen M			\$57.82
Labor Subtotal			\$15,703.02
Item Subtotal			\$15,703.02

005-01-10 - 0001AE-Chemical Recovery Systems Superfund Site**Professional Services**

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Principal			
Tonkin, Matthew J			\$809.55
Sr. Project Hydrogeologist/Sci			
Sorel, Dominique			\$1,171.28

Prj. Hydrogeologist/Sci.			
Parratt, Toomas			\$1,064.40
Staff Hydrogeologist/Sci.			
Adams, Glen			\$155.31
Technician/Draftsperson			
Pekoske, Kristen M			\$77.10
Labor Subtotal			\$3,277.64
Item Subtotal			\$3,277.64

007-01-10 - 0001AG-Lemberger Transport & Recycling Superfund Sites**Outside Consultants**

<u>Activity/Vendor</u>	<u>Invoice</u>	<u>Date</u>	<u>Cost</u>	<u>Mult</u>	<u>Amount</u>
Subterranean Research, Inc.	SSP20201-I18	7/31/2021	██████	██████	\$161.91
Outside Consultants Subtotal					\$161.91
Item Subtotal					\$161.91

008-01-10 - 0001AH-Hedblum Industries Superfund Site**Professional Services**

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Sr. Project Hydrogeologist/Sci			
Sorel, Dominique	██████	██████	\$366.02
Labor Subtotal	██████		\$366.03

Outside Consultants

<u>Activity/Vendor</u>	<u>Invoice</u>	<u>Date</u>	<u>Cost</u>	<u>Mult</u>	<u>Amount</u>
Subterranean Research, Inc.	SSP20201-I18	7/31/2021	██████	██████	\$1,318.41
Outside Consultants Subtotal					\$1,318.41
Item Subtotal					\$1,684.44

009-01-10 - 0001AI-SE Rockford**Professional Services**

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Sr. Project Hydrogeologist/Sci			
Sorel, Dominique	██████	██████	\$292.82
Prj. Hydrogeologist/Sci.			
Karanovic, Zdravka	██████	██████	\$17,629.12
Technician/Draftsperson			
Pekoske, Kristen M	██████	██████	\$38.55
Labor Subtotal	██████		\$17,960.50
Item Subtotal			\$17,960.50

Professional Services

Employee Type

Associate

Neville, Christopher

Hours

Rate

Amount

Sr. Hydrogeologist/Sci.

Mihm, Kathleen

Hours	Rate	Amount
		\$181.95
		\$888.20

Sr. Project Hydrogeologist/Sci			
Sorel, Dominique			\$1,610.51
Prj. Hydrogeologist/Sci.			
Slawter, Kristen EM			\$66.52
Staff Hydrogeologist/Sci.			
Nelson, Leah I			\$5,047.58
Technician/Draftsperson			
Pekoske, Kristen M			\$134.92
Labor Subtotal			\$7,929.70
Item Subtotal			\$7,929.70

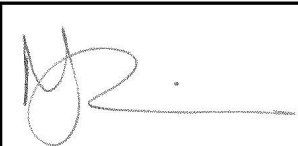
011-01-10 - 0001AK - Motor Wheel Tire Disposal

Professional Services

<u>Employee Type</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
Principal			
Tonkin, Matthew J			\$809.55
Sr. Project Hydrogeologist/Sci			
Sorel, Dominique			\$1,171.28
Labor Subtotal			\$1,980.83
Item Subtotal			\$1,980.83
Invoice Amount			\$59,188.31

Project Summary

Budget	Previously Billed	Current Billing	Billed To Date	Budget Remaining
\$2,091,922.47	\$758,908.65	\$59,188.31	\$818,096.96	\$1,273,825.51



Matthew J. Tonkin

Project Manager
S.S. Papadopoulos & Associates, Inc.
505 N. Pine St., Williamsfield, IL 61489-9517
Web: www.sspa.com // Email: matt@sspa.com // Skype: mattsspa
Office: (309) 616 9060 // Cell: (508) 815-9886



S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

Site Specific Detail Report

EPA TASK ORDER #: 68HE0520F0029

GSA Contract #GS-10F-0462M

Inv. #23529

Reporting Period: 11 February 2020 through July 31, 2021

subClin	Site/Project Title	Job Number			Current Charges	Cumulative Charges
		SSID	Action Code	OU	Inv. #23529	
0001AA	Ottawa Township Flat Glass Superfund Alternative Site	B5A7	NK	03	\$ -	\$ 63,759.26
0001AA	Ottawa Township Flat Glass Superfund Alternative Site	B5A7	NK	04	\$ -	\$ 63,759.25
0001AB	Union Carbide Corporation Superfund Site	05F4	BF	02	\$ 1,913.49	\$ 54,467.36
0001AC	St. Regis Paper Company Superfund Site	05J2	OM	00	\$ 8,576.78	\$ 54,616.66
0001AD	Pristine Superfund Site	0556	ME	05	\$ 15,703.02	\$ 264,746.38
0001AE	Chemical Recovery Systems Superfund Site	0521	BE	01	\$ 3,277.64	\$ 123,882.25
0001AF	Lemberger Landfill Superfund Sites	053E	FE	00	\$ -	\$ 322.34
0001AG	Lemberger Transport & Recycling Superfund Site	05J4	FE	00	\$ 161.91	\$ 6,216.14
0001AH	Hedblum Industries Superfund Site	05E9	ME	01	\$ 1,684.44	\$ 29,660.03
0001AI	SE Rockford Superfund Site	05DK	OM	02	\$ 17,960.50	\$ 41,828.98
0001AJ	Forest Waste Superfund Site	05D5	BF	02	\$ 7,929.70	\$ 58,743.62
0001AK	Motor Wheel Disposal Superfund Site	05S5	FE	00	\$ 1,980.83	\$ 21,751.41
0001AL	Verona Well Field Superfund Site	0551	TA	01	\$ -	\$ -
0001AL	Verona Well Field Superfund Site	0551	TA	02	\$ -	\$ 23,581.44
0001AM	Hagen Farm Superfund Site	053C	ME	02	\$ -	\$ 10,761.84
0001AN	Springfield Township Dump Superfund Site	05A7	OM	01	\$ -	\$ -
Total					\$ 59,188.31	\$ 818,096.96

X

X

C 1000027000

1801 ROCKVILLE PIKE, SUITE 220, ROCKVILLE, MARYLAND 20852-1633 • TEL: (301) 718-8900
www.sspa.com • e-mail: MarylandDC@sspa.com

C 2030006257
3 - 10/29/2021
A S

1725_summary table thru 07312021.xlsx



S.S. PAPADOPULOS & ASSOCIATES, INC.
ENVIRONMENTAL & WATER-RESOURCE CONSULTANTS

EPA Region 5 Support
Description of Services Performed
Period of Performance:
Through July 2021

1725-002-01-10 0001AA-Ottawa Township Flat Glass Superfund Alternative Site

No activity during this period.

1725-002-01-10 0001AB-Union Carbide Corporation Superfund Site

Services were performed by the following SSP&A staff:

Staff	Hours
Alexandros Spiliotopoulos	
Dominique Sorel	
Kristen Pecoske	

During this period, A. Spiliotopoulos reviewed UCC's proposed monitoring plan for additional comments for EPA. He reviewed the well installation plan with EPA and Ohio EPA, worked on monthly reporting, and reviewed UCC's proposed monitoring well installation. A. Spiliotopoulos worked on clarifications on the proposed well installation, reviewed Raschig Tract II annual report, reviewed and commented on the Air Sparge performance evaluation outline, joined a call with EPA on monitoring well installation, and worked on the text for responding to UCC. Finally, he worked on comments on the proposed report outline by UCC on performance evaluation and followed up with EPA. D. Sorel and K. Pecoske worked on the monthly report.

1725-003-01-10 0001AC-St. Regis Paper Company Superfund Site

Staff	Hours
Dominique Sorel	
Kristen Pecoske	

During this period, D. Sorel reviewed the annual report and communicated with Subterranean and EPA. She reviewed the Extraction Well Siting Plan for OU3 and Extraction Well W404 Evaluation

Plan for OUI and sent them to EPA. D. Sorel also joined a call with L. Patterson, joined several calls with D. Dougherty, and reviewed the Annual monitoring report comments. K. Pekoske worked on the monthly report and added documents to Endnote.

1725-004-01-10 0001AD-Pristine Superfund Site Systems

Staff	Hours
Kathleen Mihm	████
Marinko Karanovic	████

1801 ROCKVILLE PIKE, SUITE 220, ROCKVILLE, MARYLAND 20852-1649 • TEL. (301) 718-8900 FAX (301) 718-8909
www.sspa.com • e-mail: mtonkin@sspa.com



Page 2

Staff	Hours
Erica Perozo	████
Dominique Sorel	████
Glen Adams	████
Matthew Tonkin	████
Kristen Pekoske	████

During this period, K. Mihm joined several conference calls, one regarding the magic pit area and data verification. She conducted a review with M. Karanovic and had several discussions with M. Karanovic and E. Perozo. She also reviewed 4dim files and boring logs. M. Karanovic reviewed GHD EVS kriging results, joined a conference call with GHD about kriging grid refinement and uncertainty, and ran indicator kriging uncertainty analysis (SISIM). He joined a conference call with E. Perozo and M. Tonkin regarding indicator kriging uncertainty analysis, evaluated indicator kriging variograms and SISIM results, and discussed indicator kriging with A. Hein. Finally, M. Karanovic joined a conference call with EPA regarding indicator kriging uncertainty analysis. E. Perozo made edits to the regional contamination memo and discussed them with EPA; reviewed the EW1 evaluation and memo amendment; conducted additional analyses for the regional contamination memo based on EPA's comments; and joined several calls with GHD, including one regarding 3D visualization. Finally, she joined an additional call with EPA, held discussions with SSP&A staff, and worked on a memo on the July 19th call. D. Sorel worked on the monthly report and reviewed the July 19th memo for E. Perozo. G. Adams worked on georeferencing, digitizing and adjusted digitized shapes to match aerial imagery. M. Tonkin reviewed offsite migration data and analyses; joined calls / corresponded with E. Perozo regarding project meetings; followed up on visualization; and joined a Netmeeting with EPA on visualization, geologic interpretation, and off-site contamination and migration. He reviewed and corresponded on draft memos and call summaries; joined a Netmeeting with E. Perozo and M. Karanovic regarding kriging uncertainty and followed up with them on an approach, calculations, recommendations, and sent a note to EPA; joined a call with EPA to discuss indicator approaches for geology, and for evaluating uncertainty primarily in the sand unit continuity. M. Tonkin followed up with E. Perozo and M. Karanovic on approach options, SISIM, and other alternatives. Finally, he reviewed the IK3D approaches for geology, and for evaluating uncertainty primarily in the sand unit continuity with M. Karanovic, and followed up with a call with M. Karanovic and E. Perozo on that topic. K. Pekoske worked on the monthly report.

1725-005-01-10 0001AE-Chemical Recovery Systems Superfund Site

Staff	Hours
-------	-------

Staff	Hours
Dominique Sorel	████
Toomas Parratt	████
Glen Adams	████
Matthew Tonkin	████
Kristen Pekoske	████

During this period, D. Sorel followed up on AUV data evaluation, reviewed the QMP and transmitted it to EPA. She also provided instructions to G. Adams and answering questions relative to the addition of information on the sewer line to GWD. T. Parratt reviewed normalized plots and reviewed and



Page 3

formatted AUV time series graphs. G. Adams spent time determining the information we could obtain from the engineering drawing of sewer lines, georeferencing the image, and approximating the 3D sewer line. M. Tonkin revisited the time series plots, provided them to T. Parratt, and called to discuss review and interpretation. He met with T. Parratt and D. Sorel to review river data and plots; reviewed final worksheets of river data; and provided them with the summary to EPA. K. Pekoske worked on the monthly report and added documents to Endnote.

007-01-10 - 0001AG-Lemberger Transport & Recycling Superfund Sites

No activity during this period.

1725-008-01-10 0001AH-Hedblum Industries Superfund Site

Staff	Hours
Dominique Sorel	

During this period, D. Sorel worked on the monthly report, corresponded with D. Dougherty about VI issues, and communicated with EPA and Subterranean regarding upcoming VI call.

1725-009-01-10 0001AI-SE Rockford

Staff	Hours
Dominique Sorel	
Zdravka Karanovic	
Kristen Pekoske	

During this period, D. Sorel worked on the database update, communicated with EPA and Z. Karanovic, and worked on the monthly report. Z. Karanovic worked on updating the site database. K. Pekoske worked on the monthly report.

1725-010-01-10 001AJ-Forest Waste Superfund Site

Staff	Hours
-------	-------

Christopher Neville	[REDACTED]
Kathleen Mihm	[REDACTED]
Dominique Sorel	[REDACTED]
Kristen Slawter	[REDACTED]
Leah Nelson	[REDACTED]
Kristen Pekoske	[REDACTED]

During this period, C. Neville attended a monthly update meeting. K. Mihm reviewed data status and files and prepared for updated EnviroInsite files. She reviewed logs and the status of project work,



Page 4

prepared for and joined a conference call, and worked on a rockworks 3D stratigraphy model. D. Sorel communicated with EPA regarding the database/EQuIS. She worked on the monthly report, joined the monthly conference call, and worked on a call summary and transmittal to EPA. Finally, she followed up with K. Mihm regarding the geological model update, finalized the memo with residential 1,4-Dioxane detections and recommendations, and communicated with EPA. K. Slawter reviewed 1,4-Dioxane data. L. Nelson worked on updating the CSM with EnviroInsite and Rockworks. She added boring logs into EnviroInsite and worked on cross sections, discussed how to best get surfaces into GW desktop with K. Mihm, moved data from EnviroInsite into Rockworks, picked stratigraphic units and discussed with K. Mihm software options (Rockworks vs. Surfer vs. EnviroInsite). Finally, she worked on contouring surfaces in EnviroInsite and testing input in Surfer. K. Pekoske worked on the monthly report and added documents into Endnote.

1725-011-01-10 0001AK - Motor Wheel Tire Disposal

Staff	Hours
Dominique Sorel	
Matthew Tonkin	

During this period, D. Sorel worked on the monthly report. She prepared for and joined EPA on the semiannual meeting call with Goodyear and their consultants, forwarding materials to M. Tonkin, recorded minutes, and followed up on semiannual meeting tasks and path forward. M. Tonkin conducted a pre-meeting review of slide materials and a previous SSP&A draft Memo from April. He attended the semi-annual presentation of remedy progress hosted by Goodyear and consultants. Finally, M. Tonkin prepared for and attended a call with EPA to discuss TMs, database, path forward, and comments on semiannual meeting.

1725-012-01-10 0001AL - Verona Wells - OU2

No activity during this period.

1725-013-01-10 0001AM - Hagen Farm

No activity during this period.

Subterranean Research, Inc.



Page 5

Services were performed by Subterranean on the following tasks, through July:

Site	Hours
St. Regis	32.00
Lemberger Transport and Recycling	0.70
Hagen Farm	0.00
Hedblum	5.70

Work completed by Subterranean during this period is described on their attached invoice.

S.S. PAPADOPULOS & ASSOCIATES, INC.

Summary completed by:

Dominique Sorel
Alternate Project Manager

Summary reviewed by:

Matthew Tonkin
Project Manager



DAVID E. DOUGHERTY
SUBTERRANEAN RESEARCH, INC.
121 BEACH STREET, UNIT 301
BOSTON, MA 02111-2501
(781)-710-1448
DDOUGHER@SUBTERRA.COM

9 August 2021

Jeanne Bailey
S. S. Papadopoulos & Associates, Inc.
1801 Rockville Pike
Suite 200
Rockville, MD 20852

RE: Invoice ID: SSP20201-I18
Invoice Period: Through 31 July 2021
SSP&A Project No.: 1725

Dear Ms. Bailey:

Enclosed is an executed invoice for the billing period through 31 July 2021. A monthly progress report was sent to Dominique separately.

Please contact me with any questions (ddougher@subterra.com or 781-710-1448).

Sincerely yours,

SUBTERRANEAN RESEARCH, INC.

A handwritten signature in black ink, appearing to read "D. Dougherty", is located at the bottom left of the page.

David E. Dougherty

Enclosures: Executed invoice

cc: D. Sorel, M. Tonkin

Subterranean Research, Inc.
121 Beach St., Unit 301
Boston, MA 02111-2501

Date: 9 August 2021

INVOICE TO:
S. S. Papadopoulos & Associates, Inc.
1801 Rockville Pike
Suite 200
Rockville, MD 20852

RE: Our Invoice ID: SSP20201-I18
Invoice Period: Through 31 July 2021
SSP&A Project No.: 1725

SubClin#	Description	Current SRI Hours	Labor Rate	Current SRI Labor \$\$	Current Other SRI Expense	Current Other SRI Expense \$\$	Current SRI Total \$\$	SRI Total \$\$ Since 2/10/2020
0001AC	St. Regis	32.0	\$231.30/hr	\$7,401.60	None	\$0.00	\$7,401.60	\$49,873.83
0001AF	Lemberger Landfill	0.0	\$231.30/hr	\$0.00	None	\$0.00	\$0.00	\$0.00
0001AG	Lemberger Transport & Recycling	0.7	\$231.30/hr	\$161.91	None	\$0.00	\$161.91	\$5,893.78
0001AH	Hedblum	5.7	\$231.30/hr	\$1,318.41	None	\$0.00	\$1,318.41	\$28,971.66
0001AM	HagenFarm	0.0	\$231.30/hr	\$0.00	None	\$0.00	\$0.00	\$4,602.87
Total Billing:		38.4		\$8,881.92		\$0.00	\$8,881.92	\$89,342.14

* NOTE: Differences of pennies may occur due to rounding and accumulation.

Site	# Hrs	Activities
St. Regis	32.0	Review and comments on 2020 Annual Report, W404 Augmentation, W2401R2 workplan; Conference calls; Telephone; Email.
Lemberger Landfill	0.0	<See Lemberger Transport & Recycling>
Lemberger Transport & Recycling	0.7	Receive PFAS request letter and workplan for comment; Email.
Hedblum	5.7	Review and comments on draft revised ICIAP letter; Conference calls; Telephone; Email.
Hagen Farm	0.0	No activity.

Prepared by:


David E. Dougherty

Date: 9 August 2021

